

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 20 and 23 in accordance with the following:

1. (ORIGINAL) A CAD system which processes a two-dimensional design plane/three-dimensional design space configured by referring to another two-dimensional design plane/three-dimensional design space, comprising:
 - an intra-model correspondence management unit managing correspondence between a two-dimensional design plane and a three-dimensional design space for the same target; and
 - an inter-model reference management unit managing reference between models configured by at least one two-dimensional design plane and three-dimensional design space for the same target.
2. (ORIGINAL) The CAD system according to claim 1, wherein said correspondence is a spatial attribute of each two-dimensional design plane in a model.
3. (ORIGINAL) The CAD system according to claim 1, further comprising:
 - an automatic assembly unit generating three-dimensional reference between a three-dimensional design space of a first model and a three-dimensional design space of a second model according to two-dimensional reference of a plurality of two-dimensional design planes belonging to the first model to a two-dimensional design plane belonging to the second model, correspondence in the first model, and correspondence in the second model.
4. (ORIGINAL) The CAD system according to claim 3, wherein said automatic assembly unit automatically assembles a three-dimensional design space belonging to the first model using two-dimensional reference of a plurality of two-dimensional design planes belonging to the first model, and the correspondence in the first model.
5. (ORIGINAL) The CAD system according to claim 4, wherein

said automatic assembly unit, sequentially from a model in a lowest hierarchical level in reference, determines a placement vector in a referenced-from three-dimensional design space from correspondence in a referenced-from model determines a reference vector in a three-dimensional design space of the referenced-to model from correspondence in a referenced-to model, generates a conversion matrix of the placement vector and the reference vector, and assembles a three-dimensional design space of the referenced-from model based on the conversion matrix.

6. (ORIGINAL) The CAD system according to claim 1, wherein
when one of the two-dimensional reference and the three-dimensional reference is performed between the models, said inter-model reference management unit performs other two-dimensional reference and three-dimensional reference between the models corresponding to a prior referencing operation.

7. (ORIGINAL) The CAD system according to claim 6, wherein
said inter-model reference management unit automatically performs the other two-dimensional reference and three-dimensional reference between the models corresponding to the prior referencing operation.

8. (ORIGINAL) The CAD system according to claim 6, wherein
said inter-model reference management unit performs the other two-dimensional reference and three-dimensional reference between the models interactively with a designer corresponding to the prior referencing operation.

9. (ORIGINAL) The CAD system according to claim 6, wherein
said inter-model reference management unit notifies a designer of consistency corresponding to the prior referencing operation.

10. (ORIGINAL) The CAD system according to claim 1, further comprising
a new reference setting unit setting consistent reference, when new reference is set between a first design plane/space which is one of a two-dimensional design plane or a three-dimensional design space belonging to a third model and a second design plane/space which is one of a two-dimensional design plane or a three-dimensional design space belonging to a fourth model, between a two-dimensional design plane and a three-dimensional design space

other than the first design plane/space belonging to the third model and a two-dimensional design plane and a three-dimensional design space other than the second design plane/space belonging to the fourth model based on the new reference, the correspondence in the third model, and the correspondence in the fourth model.

11. (ORIGINAL) The CAD system according to claim 1, wherein
a plurality of two-dimensional design planes/three-dimensional design spaces belonging to the model are specified to be edited based on the correspondence in the model.

12. (ORIGINAL) The CAD system according to claim 1, wherein
when an element specified in a two-dimensional design plane or a three-dimensional design space belonging to a fifth model is moved to a newly generated sixth model, said inter-model reference management unit sets inter-model reference between the fifth model and the sixth model.

13. (ORIGINAL) The CAD system according to claim 12, wherein
when said sixth model is generated, said intra-model correspondence management unit sets intra-model correspondence of the sixth model.

14. (ORIGINAL) The system according to claim 12, wherein
when said sixth model is generated, a designer is instructed to maintain spatial consistency of each of the two-dimensional design planes and the three-dimensional design spaces belonging to the sixth model.

15. (ORIGINAL) A cooperative system which maintains cooperation of graphics data between a two-dimensional CAD and a three-dimensional CAD, comprising:
an intra-model correspondence management unit managing correspondence between a two-dimensional design plane by a two-dimensional CAD and a three-dimensional design space by a three-dimensional CAD for the same target; and
an inter-model reference management unit managing reference between models configured by at least one two-dimensional design plane and three-dimensional design space for the same target.

16. (ORIGINAL) The cooperative system according to claim 15, further comprising

a three-dimensional reference generation unit generating three-dimensional reference between a three-dimensional design space of the first model and a three-dimensional design space of the second model according to two-dimensional reference of a plurality of two-dimensional design planes belonging to a first model to a two-dimensional design plane belonging to a second model, correspondence in the first model, and correspondence in the second model.

17. (ORIGINAL) The cooperative system according to claim 16, wherein said automatic assembly unit automatically assembles a three-dimensional design space belonging to the same model using two-dimensional reference of a plurality of two-dimensional design planes belonging to the same model, and the correspondence in the model.

18. (ORIGINAL) A CAD system which processes a two-dimensional design plane/three-dimensional design space configured by referring to another two-dimensional design plane/three-dimensional design space, comprising:

intra-model correspondence management means for managing correspondence between a two-dimensional design plane and a three-dimensional design space for the same target; and

inter-model reference management means for managing reference between models configured by at least one two-dimensional design plane and three-dimensional design space for the same target.

19. (ORIGINAL) A cooperative system which maintains cooperation of graphics data between a two-dimensional CAD and a three-dimensional CAD, comprising:

intra-model correspondence management means for managing correspondence between a two-dimensional design plane by a two-dimensional CAD and a three-dimensional design space by a three-dimensional CAD for the same target; and

inter-model reference management means for managing reference between models configured by at least one two-dimensional design plane and three-dimensional design space for the same target.

20. (CURRENTLY AMENDED) A method of managing CAD data for processing a two-dimensional design plane/three-dimensional design space configured by referring to another two-dimensional design plane/three-dimensional design space comprising:

managing correspondence between a two-dimensional design plane and a three-dimensional design space for the same target; and

managing reference between models configured by a two-dimensional design plane and a three-dimensional design space for the same target.

21. (ORIGINAL) The method according to claim 20, wherein said correspondence is a spatial attribute of each two-dimensional design plane in a model.

22. (ORIGINAL) The method according to claim 20, wherein three-dimensional reference is set between a three-dimensional design space of a first model and a three-dimensional design space of a second model according to two-dimensional reference of a plurality of two-dimensional design planes belonging to the first model to a two-dimensional design plane belonging to the second model, correspondence in the first model, and correspondence in the second model.

23. (CURRENTLY AMENDED) A computer-readable storage medium storing a program used to direct a computer to perform processing of a two-dimensional design plane/three-dimensional design space configured by referring to another two-dimensional design plane/three-dimensional design space:

managing correspondence between a two-dimensional design plane and a three-dimensional design space for the same target; and

managing reference between models configured by a two-dimensional design plane and a three-dimensional design space for the same target.

24. (ORIGINAL) The medium storing a program used to direct a computer to perform according to claim 23:

setting three-dimensional reference between a three-dimensional design space of a first model and a three-dimensional design space of a second model according to two-dimensional reference of a plurality of two-dimensional design planes belonging to the first model to a two-dimensional design plane belonging to the second model, correspondence in the first model, and correspondence in the second model; and

automatically assembling a three-dimensional design space belonging to the first model using the three-dimensional reference.